Assessing Continuity of Care Practices in Substance Use Disorder Treatment Programs*

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ABSTRACT. Objective: The purpose of this article is to describe the development and psychometric properties of parallel program-level and individual-level versions of the Continuity of Care Practices Survey (CCPS-P and CCPS-I), a measure that assesses four dimensions of continuity of care practices in substance use disorder (SUD) treatment programs. CCPS subscales assess staff efforts to ensure provider continuity, maintain contact with patients, coordinate care among providers and connect patients to community resources. **Method:** Program-level CCPS data were obtained from directors/coordinators of 129 intensive inpatient/residential and outpatient Department of Veterans Affairs SUD programs. These data were used to examine the internal consistency and discriminant validity of the CCPS-P. A parallel individual-level CCPS-I completed by counselors for 835 patients in a subsample of 28 SUD programs, assessed the continuity of care services that staff provided to individual patients. These data were used to examine the predictive validity of the CCPS-P. **Results:** CCPS-P and CCPS-I subscales demonstrated acceptable psychometric properties. Lack of significant correlations between CCPS-P subscales and SUD program characteristics (e.g., size, staffing) provided preliminary evidence for discriminant validity. CCPS-P subscales and the overall CCPS-P score predicted corresponding continuity of care services that staff provided to patients within programs, offering support for predictive validity. **Conclusions:** Managers can use the CCPS to monitor and improve SUD programs' continuity of care practices. The CCPS also enables researchers to determine the impact of continuity of care practices on the engagement of patients in continuing care and outcomes. (*J. Stud. Alcohol* **65:** 513-520, 2004)

CONTINUITY OF CARE, the "orderly, uninterrupted movement of patients among the diverse elements of the service delivery system" (Bachrach, 1981), is an essential element of high quality substance use disorder (SUD) treatment (Institute of Medicine, 1990). Recently, the Department of Veterans Affairs (VA; Veterans Health Administration, 2003), the nation's largest provider of specialized mental health care, designated continuity of care as a performance measure of quality for its SUD treatment programs. Continuity is critical for SUD patients because they often present with psychiatric, medical, legal and employment problems (Moos et al., 1998) that require comprehensive services from a variety of health care providers and mandate that staff minimize service gaps. To date, there is little evidence linking continuity of care practices to patient outcomes, although a few studies (Cox et al., 1998; Hall et al., 1994; McLellan et al., 1998) have shown that the efforts of case managers to ensure continuity of care are linked to better outcomes in SUD patients.

Clinical practices that health care providers employ to ensure continuity of care vary by discipline. Several cross-disciplinary themes recur: an emphasis on constancy in providers, coordination of care and sharing information among providers, comprehensive addressing of patients' needs by linking them with community resources, staying in contact with patients and monitoring their progress (Bachrach, 1981; Haggerty et al., 2001; Johnson et al., 1997; Ware et al., 1999). Conceptually, these practices are loosely connected within broad dimensions of continuity of care.

Although clinicians value continuity as an important component of quality mental health care, researchers have yet to develop multidimensional measures of continuity with established psychometric properties (Adair et al., 2003). Studies have often focused on only a few aspects of continuity, such as having the same provider over time. Several recent studies (Fortney et al., 2003; Greenberg et al., 2002, 2003) have assessed multiple dimensions of continuity, but they rely on visit-based administrative data and are therefore limited primarily to tracking patients' patterns of outpatient service use, such as the number of months with at least one outpatient visit, days between encounters and number of different services received.

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To our knowledge, no current measures systematically operationalize the multiple dimensions of continuity of care practices that staff use to facilitate patients' transition from intensive treatment to continuing care. With the current emphasis on continuity in SUD treatment, program managers and clinicians need a reliable and valid measure of continuity of care in order to evaluate and monitor SUD program performance, identify effective practices and assist in developing interventions to improve practices.

To address this gap, we developed two parallel versions of the Continuity of Care Practices Survey (CCPS). One version of this self-report measure assesses continuity of care practices at the program level (CCPS-P). The other assesses the same practices at the individual level (CCPS-I) (copies of the CCPS-P and CCPS-I may be obtained from the corresponding author upon request). This article examines the psychometric characteristics of the CCPS and evaluates CCPS reliability and validity by using data from a multisite study of VA SUD treatment programs in which directors assessed their programs' continuity of care practices (CCPS-P) and counselors/case managers reported on the continuity of care services (CCPS-I) they offered to individual patients in these programs. This study relies on data from staff because there were feasibility issues in obtaining complementary continuity of care data from patients. Ideally, follow-up data would be collected from staff and patients in the same program to help establish the CCPS's validity.

The aims of this study were fourfold: (1) to describe the development of the CCPS-P and the CCPS-I and their psychometric properties; (2) to assess the discriminant validity of the CCPS subscales by determining whether the continuity of care practices subscales are conceptually distinct from such other key SUD program characteristics as treatment setting, size and staffing; (3) to evaluate the predictive validity of the CCPS by determining whether program-level continuity of care practices subscales predict the continuity of care services staff provide to individual patients; and (4) to illustrate how CCPS profiles can be used to assess and compare SUD treatment programs.

Method

We identified all VA intensive SUD treatment programs (N = 151) through telephone interviews and obtained data on program type (inpatient/outpatient), length of stay in inpatient programs and number of treatment hours per week in outpatient programs. Intensive outpatient programs offered treatment 3 or more hours per day for 3 or more days per week; intensive inpatient/residential programs provided at least 14 days of treatment. Directors of 129 (85%) of the 151 programs completed the CCPS by mailed questionnaire or telephone interview and also provided information on program size (number of unique patients treated in the previous year) and full-time equivalent (FTE) staff in the prior year. These data were used to examine the reliability and discriminant validity of the CCPS. The 22 nonparticipating programs were comparable to the 129 participating programs in type, treatment intensity and length of stay.

A subsample comprising 28 of the 129 programs was selected on the basis of type of treatment offered (inpatient/residential or outpatient) and diversity of continuity of care practices. Staff from these 28 programs completed the CCPS-I to furnish data on specific continuity of care services they provided to individual patients. Counselors/case managers completed the CCPS-I for an average (SD) of 30 (8.0) patients per program (overall N = 835).

SUD treatment program samples

The CCPS-P was developed on the sample of 129 intensive SUD treatment programs (58 inpatient/residential and 71 outpatient); methadone maintenance programs were excluded. The median length of stay in the inpatient/residential programs was 28 days (interquartile range [IQ]: 19-60). For outpatient programs, the median level of services was 5 days per week and 6 hours per day, or an average of 30 treatment hours per week. The average number of patients treated per year per FTE staff member was 27 for inpatient/residential programs and 64 for outpatient programs. Inpatient/residential programs treated fewer patients annually (median = 240 patients; IQ: 154-424) than did outpatient programs (median = 450 patients; IQ: 260-954).

The CCPS-I was developed on 835 consecutively admitted patients with a diagnosis for SUD according to the International Classification of Diseases, Injuries, and Causes of Death, Ninth Edition (World Health Organization, 1977) in a subsample of 28 SUD programs (10 inpatient/residential and 18 outpatient) whose characteristics mirrored those of the full sample of 129 programs. Nearly all patients (97%) were men; 52% were white, and 42% were black. On average (SD), patients were 47 (8.0) years old and had completed 13 (2.0) years of education. Only 16% were married; 60% were divorced or separated. Most patients (64%) had only an SUD diagnosis; the remainder had an additional psychiatric diagnosis. The majority of patients (72%) had both an alcohol and drug use disorder.

Measures: Continuity of Care Practices Survey-program level (CCPS-P)

The CCPS-P measures SUD program directors' perceptions of four program-level continuity of care dimensions consisting of provider efforts to (1) ensure continuity in providers, (2) maintain contact with patients, (3) connect patients to community resources and (4) coordinate care among different providers. This conceptualization was based on a literature review and interviews with SUD treatment experts. A preliminary version of the CCPS-P was reviewed

by a panel of nationally recognized experts in SUD treatment and VA health care. Their feedback on the clarity, formatting and coverage of relevant items and dimensions was used to refine questions and construct the initial survey. We then applied the conceptual criterion that each subscale item had to have good content validity (i.e., each item had to be conceptually related to a dimension). Items that were difficult to understand or that tapped more than one dimension were dropped.

To construct the continuity of care subscales, we applied three empirical criteria to the CCPS-P item data from the 129 SUD programs. (1) Each item had to have a good response distribution and apply to both inpatient/residential and outpatient programs; we chose items in which the entire range of potential responses was endorsed for each program type. (2) Each item had to have a substantial positive correlation with its intended subscale. (3) To ensure moderate independence among subscales, items needed to correlate more highly with their own subscale than with others.

The application of these criteria resulted in a 23-item version of the CCPS-P comprising four continuity of care practices subscales.

Provider Continuity. Provider Continuity is the mean percentage response to two items that asked: "In the past 3 months, what percent of program patients had the same case manager and/or counselor during intensive treatment and continuing outpatient care?" "In the past 3 months, what percent of patients were assigned to the same counselor, case manager or treatment team if they relapsed and needed intensive treatment again?"

Maintain Contact. Maintain Contact is the mean response varying from "never/rarely" to "almost always" to four items rated on four-point scales, such as how often staff attempted to contact patients within 3 days of a missed continuing-care appointment, how often they sent appointment reminders to patients prior to scheduled appointments, or how often they called patients within 14 days of discharge to find out if the patients had contacted services to which they had been referred.

Connect to Resources. Connect to Resources is the mean response to 12 items rated on four-point scales. Six items with response ratings from "never/rarely" to "almost always" asked such questions as how often staff arranged for patients to meet or talk to their continuing care counselor; how often they arranged for patients to attend an Alcoholics Anonymous, Narcotics Anonymous or Cocaine Anonymous meeting in their community during intensive treatment; and how often they secured drug-free or sober living arrangements for patients. Six other items asked about staff referrals of patients for services to address coexisting problems (e.g., psychiatric, employment, housing, family) and were rated on four-point scales ranging from "patients refer themselves to an appropriate program" to "staff set up an appointment for patients with a specific provider."

Coordinate Care. Coordinate Care is the mean response varying from "never/rarely" to "almost always" to five items rated on four-point scales, such as how often intensive treatment staff notified outpatient counselors of patients' impending discharge, worked with counselors to jointly develop patients' discharge plans, or checked with counselors to make sure patients kept continuing care appointments.

Measures: Continuity of Care Practices Survey-individual level (CCPS-I)

The CCPS-I is completed by SUD program staff and provides data on continuity of care services that primary counselors/case managers reported individual patients received or were expected to receive during the transition from intensive treatment to continuing care. Four CCPS-I subscales corresponding to each of the program-level CCPS-P subscales were adapted from CCPS-P subscale items to reflect staff actions at the individual-patient level. A CCPS-P item asked, for example, how often staff worked with outpatient counselors to "jointly develop" discharge plans for patients. The parallel CCPS-I item asked the patient's primary counselor/case manager if the patient's discharge plan was "jointly developed" with his or her outpatient counselors.

Results

Analyses

First, the psychometric characteristics (score distributions, internal consistency reliability) of the CCPS-P subscales are described for 117 of the 129 SUD programs on which we had complete CCPS-P subscale data. To determine if the CCPS-P subscales applied to different types of SUD programs, we examined the subscales' psychometric properties separately in the inpatient/residential (n = 52) and outpatient (n = 65) program subsamples. We also examined the psychometric characteristics of the parallel CCPS-I subscales. Because scales consisted of individual items with different metrics, standardized subscale scores for each of the CCPS-P and CCPS-I subscales were calculated, with higher scores indicating greater continuity. Overall CCPS-P and CCPS-I scores, also standardized, consisted of the mean of the four standardized subscale scores.

Second, we assessed the discriminant validity of the CCPS-P by examining the correlations between the four subscales and other characteristics of the 117 SUD programs. The program-level CCPS subscales were intended to assess aspects of SUD program practices that are distinct from the typical structural characteristics of programs, such as size and staffing. We therefore had no expectations as to how the CCPS-P subscales would correlate with such program characteristics.

Third, we assessed the predictive validity of the CCPS-P by conducting a series of regression analyses using data from the 28 programs for which both program-level and individual-level data were available. We used program-level continuity of care practices to predict the continuity of care services that individual patients received. In each regression, the dependent variable was one of the four CCPS-I subscales; independent variables included type of SUD program and the corresponding CCPS-P subscale.

Psychometric properties of the CCPS-P and CCPS-I subscales

CCPS-P item-to-subscale correlations ranged from 0.19 to 0.41, for Connect to Resources, to 0.51 to 0.70, for Coordinate Care (Table 1). CCPS-I item-to-subscale correlations were comparable, but slightly higher. With the exception of one correlation of 0.19, all item-to-scale correlations met the suggested ideal criterion of 0.20 or above (Kline, 1986). The range of item-to-subscale correlations for each of the CCPS-P and CCPS-I subscales was relatively narrow, indicating that each subscale item contributed equally to that subscale. Inpatient/residential and outpatient programs showed similar (but slightly wider) ranges of item-to-subscale correlations compared with those of the entire sample for both the CCPS-P and CCPS-I (not shown).

Additional analyses (not shown) indicated that for both the CCPS-P and the CCPS-I each item was more highly correlated with its own subscale than with other subscales, lending support to the conceptually based groupings of items. The average interitem correlations for the CCPS-I subscales were either comparable with or higher than those for the CCPS-P, with an overall average interitem correlation of 0.43.

Internal consistency reliability estimates (Cronbach's alphas) were moderate to high, ranging from 0.61 to 0.84 for the CCPS-P and from 0.67 to 0.85 for the CCPS-I. Internal consistency reliabilities were generally comparable when calculated separately by type of program for both versions of the CCPS. Alphas of inpatient/residential programs varied from 0.63 to 0.83 for the CCPS-P and from 0.75 to 0.85 for the CCPS-I. Alphas of outpatient programs varied from 0.60 to 0.84 for the CCPS-P and from 0.62 to 0.84 for the CCPS-I.

Correlations between the CCPS-P subscales ranged from 0.10 to 0.38, with an average of 0.23 (Table 2). These modest correlations indicated that the CCPS-P subscales tap clinical practices that are somewhat conceptually related yet somewhat distinct in practice. As expected, each subscale showed a moderate correlation (range: 0.32-0.42) with the overall CCPS composite score. The correlations between the CCPS-I subscales were somewhat stronger and ranged from 0.35 to 0.64.

One-way ANOVAs comparing the 28 programs on the CCPS-I scores revealed that a significant amount of the variation in CCPS-I scores can be attributed to between-program variation on all four subscales (all F statistics were significant at $p < .001$). The percentage of total variation in CCPS-I scores accounted for by between-program variation ranged from 25% for Connect to Resources to 53% for Provider Continuity.

Validity evidence for the CCPS-P

Discriminant validity. To assess discriminant validity of the CCPS-P, we examined correlations between each of the subscales and five SUD program characteristics: program size (number of unique patients treated), staffing (number of FTE staff per patient), program type (inpatient/residential, outpatient), average length of stay for inpatient programs and number of treatment hours per week for outpatient programs. None of the correlations were significant at $p \leq .05$.

Predictive validity. We conducted a series of hierarchical regression analyses to determine the unique contribution that program-level continuity of care practices made to the continuity of care services provided to individual patients. We entered SUD program type (inpatient/residential = 1) as a control variable in Step 1 and the corresponding CCPS-P score in Step 2. Each CCPS-P score significantly predicted its corresponding CCPS-I score. The overall explained variance (R^2) for each subscale ranged from 4% for Connect to Resources to 22% for Provider Continuity (Table 3).

The relative contribution of program type to the total explained variance was quite small compared with the amount contributed by the CCPS-P subscales. For example,

TABLE 1. Psychometric properties of the CCPS-P and CCPS-I subscales

CCPS subscales	CCPS-P (n = 117 programs)	CCPS-I (n = 597-769[a] patients)
Provider Continuity[b]		
Item-to-scale correlation	–	–
Average interitem correlation	(0.29)	(0.22)
Cronbach's alpha	–	–
Maintain Contact		
Item-to-scale correlation	0.29-0.46	0.55-0.72
Average interitem correlation	(0.27)	(0.53)
Cronbach's alpha	0.61	0.82
Connect to Resources		
Item-to-scale correlation	0.19-0.41	0.23-0.51
Average interitem correlation	(0.12)	(0.23)
Cronbach's alpha	0.65	0.67
Coordinate Care		
Item-to-scale correlation	0.51-0.70	0.57-0.74
Average interitem correlation	(0.51)	(0.53)
Cronbach's alpha	0.84	0.85

Notes: [a]N's vary because some items did not apply to all patients or data were missing. [b]Item-to-scale correlation and alpha are not reported because the scale includes only two items. All item-to-scale correlations are corrected (i.e., item scores were removed from the total subscale score).

TABLE 2. Intercorrelations of CCPS-P and CCPS-I

	Provider Continuity[a]	Maintain Contact	Connect to Resources	Coordinate Care	Overall CCPS score
Provider Continuity	–	0.10	0.19	0.38	0.32[b]
Maintain Contact	0.48	–	0.24	0.23	0.27
Connect to Resources	0.35	0.45	–	0.24	0.32
Coordinate Care	0.51	0.62	0.64	–	0.42
Overall CCPS score	0.52	0.64	0.58	0.75	–

[a]Correlations between CCPS-P subscales for $N = 117$ programs are to the right of the diagonal; correlations between CCPS-I subscales are to the left of the diagonal. N's for CCPS-I correlations ranged from 780 to 827 due to missing data. [b]The overall CCPS score excludes the score for the particular subscale with which it is correlated.

the total explained variance for Coordinate Care was 17%; program type contributed 3% and CCPS-P scores contributed 14%. A similar pattern existed for the other three subscales where the CCPS-P scores accounted for a much larger proportion of the explained variance in CCPS-I subscales than did program type. The strongest CCPS-P predictors were the Provider Continuity and Coordinate Care subscales.

We conducted additional comparable analyses where the dependent variables were aggregated mean CCPS-I scores ($n = 28$). The pattern of results for these analyses were similar, but somewhat weaker. Three of the five CCPS-P scores significantly predicted the corresponding CCPS-I scores (explained variance ranged from 9% for Maintain Contact to 39% for Provider Continuity).

CCPS profiles

CCPS-P and CCPS-I profiles can be used to identify areas in which continuity of care practices need to be improved, to monitor changes after interventions and to obtain feedback on the effectiveness of interventions. Figure 1 presents CCPS-P and CCPS-I profiles for outpatient programs at two VA facilities. Both programs offered comparable treatment hours (40 and 35 hours/week for Programs A and B, respectively). However, Program A was larger, with lower staffing levels than Program B. Program A treated 652 unique patients per year with eight FTE staff, and Program B treated 173 patients with eight staff. Patient populations also differed: Program A served more minorities (65% vs 30%) and patients with posttraumatic stress disorder (25% vs 5%) than did Program B.

The profiles demonstrate striking differences in program practices. Program A's continuity of care practices were above average for each CCPS-P subscale, whereas Program B's were below average. Program B's CCPS-P profile indicates that this program needed to improve coordination and to place more emphasis on connecting patients to community resources to ensure that patients had the same provider across levels of care and to maintain contact with patients after discharge.

The CCPS-I profiles show a similar pattern to the CCPS-P profiles. Despite having lower staffing levels than Program B, Program A provided more continuity of care to

TABLE 3. Multiple regression analyses using CCPS-P subscale scores to predict CCPS-I subscale scores

	CCPS-I subscales				
	Provider Continuity ($n = 808$)[a]	Maintain Contact ($n = 802$)	Connect to Resources ($n = 827$)	Coordinate Care ($n = 827$)	Overall services score
Inpatient program (yes/no)	.07	-.18*	-.01	-.37‡	-.10
R^2	.00	.02‡	.00	.03‡	.02‡
CCPS-P scores					
CCPS-P score corresponding to CCPS-I score	.45‡	.26‡	.19‡	.34‡	.38‡
Step 2 R^2 change	.22‡	.05‡	.03‡	.14‡	.17‡
Summary R^2	.22‡	.07‡	.04‡	.17‡	.19‡
Adjusted R^2	.21‡	.07†	.04†	.16‡	.19‡

[a]N's vary because some items did not apply to all patients or data were missing.
*$p \leq .05$; †$p \leq .01$; ‡$p \leq .001$.

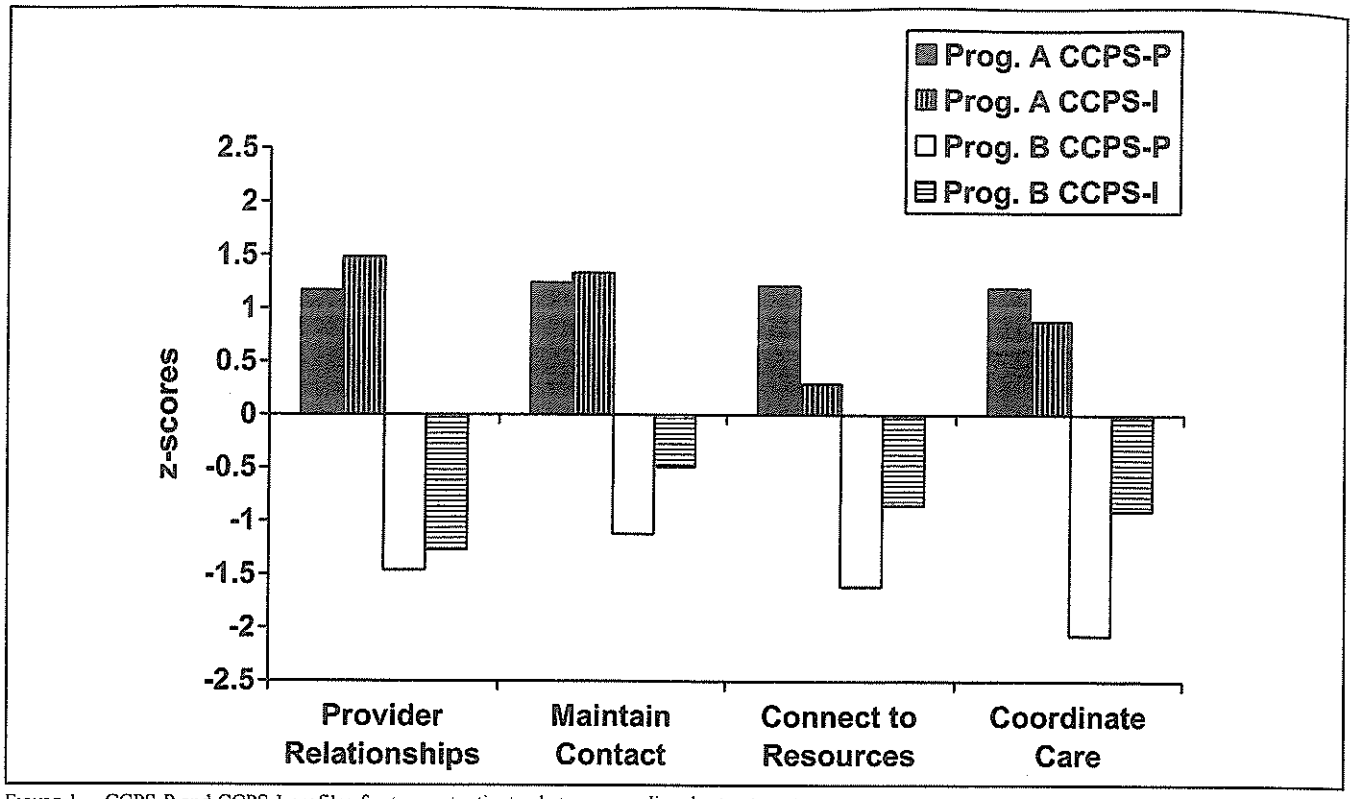

FIGURE 1. CCPS-P and CCPS-I profiles for two outpatient substance use disorder treatment programs

patients. Staff made substantial efforts to ensure continuity in providers, maintain contact with patients and coordinate their care. Program B's profile suggests several areas in which managers might target interventions to improve practices, most notably in establishing systems to ensure greater continuity in providers. Managers might also focus on improving coordination by instituting procedures for notifying continuing care counselors of a patient's impending discharge.

Discussion

This study is a first attempt to construct a multidimensional measure to assess continuity of care practices in SUD programs. The CCPS-P is suitable for completion by SUD program directors or coordinators and can be used to assess SUD programs with a continuum of continuity of care, including those that do not offer continuing outpatient care. Using data from a sample of 85% of all VA intensive SUD programs nationwide, four CCPS subscales were developed. We found the Provider Continuity, Maintain Contact, Connect to Resources and Coordinate Care subscales to be equally applicable in both inpatient and outpatient treatment programs. Findings provide preliminary support for the internal reliability of the CPPS subscales at both the program level and the individual level across inpatient/residential and outpatient SUD programs.

Moderate subscale alphas are consistent with the manner in which the CCPS subscales were developed and with the concepts being measured. Subscales were constructed to comprise a variety of distinct but somewhat loosely connected continuity of care practices items that were conceptually related to the overall dimension but not necessarily highly intercorrelated. Our efforts to limit item redundancy resulted in each practice within a dimension being tapped by a single item rather than by multiple items. Internal consistencies may have been limited because use of one practice may have diminished chances of staff using other related practices within a dimension. Staff with limited resources, for example, might refer patients to AA but not have time to set up appointments for family or employment counseling. Nevertheless, items can function additively; in other words, a program that offered all of the referral options would provide more continuity of care than one that supplied few or none.

We designed the CCPS to assess clinical practices that may or may not be related to typical measures of program characteristics, such as size and staffing. We found that the CCPS-P subscales tap unique aspects of SUD programs that do not overlap with program setting, size, staffing, length of stay or treatment intensity. The lack of significant correlations between CCPS-P scores and program characteristics is intriguing and offers preliminary evidence for the CCPS-P's discriminant validity, as well as for the fea-

sibility of assessing other unique aspects of SUD programs. One interpretation for our findings is that continuity of care practices are more aligned with program priorities than with program size or staffing. However, because there is no compelling body of research to support a hypothesis for or against an association between continuity of care practices and programs' structural characteristics, our findings should be interpreted with caution. Additional, definitive information about the association of continuity of care practices with the structural characteristics of SUD programs awaits further research on the CCPS measures.

Our findings also provide preliminary support for the CCPS's predictive validity. In individual-level analyses, each of the CCPS-P scores accounted for a significant portion of the variance in corresponding CCPS-I scores. Comparable program-level analyses showed a similar but weaker pattern, in which the CCPS-P Provider Continuity and Coordinate Care subscales and overall CCPS-P score explained a significant amount of variance in CCPS-I scores. Taken together across both levels of analyses, the pattern of results provides initial evidence for the predictive validity of the Provider Continuity and Coordinate Care subscales and the overall CCPS-P score. The Maintain Contact and Connect to Resources subscales may need additional development and refinement.

Certain limitations are inherent in data from self-report measures such as the CCPS. Perhaps the associations between program-level and individual-level ratings indicate similar beliefs and practice values among staff or biased reports of services provided rather than an accurate reflection of the true nature of staff practices. In the future, researchers might obtain reports from patients about the continuity of care services they received to assess the extent to which program-level and individual-level practices correspond. Moreover, although there is at present no gold standard of continuity against which the CCPS can be evaluated, added evidence for the validity of the CCPS might be obtained by examining the correspondence between the CCPS subscales and indicators of continuity found in administrative databases or medical records. Future studies might use these data to determine whether patients received referrals to community resources and appointment reminders or had the same counselor across levels of care.

Other study limitations are that data from the same set of SUD programs were used to develop and evaluate the CCPS's psychometric properties, and the CCPS was developed entirely on a sample of VA SUD programs. Caution must thus be used in generalizing to non-VA programs. In the future it will be important to replicate the psychometric analyses of the CCPS in non-VA programs because continuity of care practices and the patient populations in these programs may differ from VA practices and patient populations. It also is important to obtain data on the stability of the CCPS subscales over time.

This study's conceptualization of four dimensions of continuity is an initial effort to identify a comprehensive set of key practices indicative of best SUD treatment practices. It will be critical in subsequent research to refine the measurement of these dimensions and determine if other dimensions, such as access to continuing care, are relevant to the assessment of continuity of care practices. The conceptualization of continuity of care used in the development of the CCPS may be applicable to other mental health programs and may perhaps apply more broadly to other health care settings.

A reliable and valid measure of continuity of care practices is a necessary first step in understanding the impact of continuity of care practices on patient outcomes. To confirm the validity of the CCPS, it is important to determine whether the CCPS subscales predict independently measured patient outcomes. An essential next step for researchers is to explicate the links between continuity of care practices, SUD patients' engagement in continuing care and treatment outcomes. If future studies show that continuity of care is indeed associated with greater engagement in continuing care and better patient outcomes, it will be critical to gain a better understanding of factors that facilitate the use of effective continuity of care practices.

Staff beliefs about practice guidelines and perceived barriers to implementing them may contribute to variations in program practices. Patient characteristics and case mix may also shape staff's practices. Graham et al. (1995), for example, found the amount of advocacy and coordination that case managers provided was related to patients' gender, age, referral source and previous treatment history. Staff efforts to maintain contact with patients and connect them to community resources may be affected by the proportion of patients who are homeless or live in rural areas. Staff's ability to coordinate the care of patients and connect them to resources may also vary, depending on the complexity of patient's problems and the resources required to address them.

Continuity of care varies considerably across programs and providers. Currently there is no consensus about what amount or combination of continuity of care practices comprises "good" continuity of care. Nor is there agreement about what constitutes sufficient engagement in continuing care for best outcomes. Is one, two or three continuing care visits per month best? What is the optimal duration of a continuing care episode? The CCPS might be used in future research to address these complex questions.

For more than two decades, continuity of care has been widely accepted as a fundamental component of SUD treatment. The parallel versions of the CCPS are measures that may prove valuable to SUD program staff and researchers who want to assess continuity of care practices. The CCPS-P provides managers and clinicians with an instrument to monitor and evaluate programs' continuity of care prac-

tices and furnishes researchers with the means to determine variability in practices across programs. The CCPS-I supplies information on the continuity of care practices that staff actually employ with specific patients. The CCPS-I allows managers and researchers to analyze practice variations within programs and to gain a better understanding of practices integral to the process of SUD care. Both versions of the CCPS are potentially useful in future research to determine if continuity of care practices are related to patients' engagement in continuing care and, in turn, patient outcomes.

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